

What Is Claimed Is:

1. A method for laser drilling in which a region of a workpiece (40) is acted upon by a laser beam (30), so that a hole (44) is produced in this region, wherein the method is implemented under an adjustable process-gas atmosphere in such a way that, due to reciprocal action between laser beam and process gas, plasma is being formed in the region or hole (44) acted upon by the laser beam (30); and a backing (20) is arranged at an outlet opening (43) of the hole (44) produced by the laser beam (40).
2. The method as recited in Claim 1, wherein an inert gas, in particular nitrogen, especially with the addition of noble gases such as helium, argon and the like, is used as process gas.
3. The method as recited in one of Claims 1 or 2, wherein the process gas is pressurized, the process gas being pressurized at a pressure of maximally 1.5 bar, in particular.
4. The method as recited in one of Claims 1 through 3, wherein the impingement direction of the process gas is adjusted by tilting relative to the direction of the laser beam (30), the tilting angle being up to 15°, in particular.
5. The method as recited in one of Claims 1 through 4, wherein a material used for the backing (20) is selected which has thermal and/or optical properties (4) that influence the form of the outlet opening (43), in particular a metallic material and a copper-containing material, in particular.
6. The method as recited in one of Claims 1 through 5, wherein the backing (20) is arranged at a distance from the outlet opening (43) and/or the workpiece (40) that influences the form of the outlet opening (43), the distance preferably amounting to between 20 µm and 200 µm.
7. The method as recited in one of Claims 1 through 6, wherein the backing (20) is arranged with tilting at a particular angle with respect to the outlet opening and/or the workpiece (40), such tilting influencing the form of the outlet opening (43), the tilting angle being up to 20°, in particular.



8. A device for laser drilling by which a region of a workpiece (40) may be acted upon by a laser beam (30) so as to produce a hole (44), wherein the device includes means (11, 12) for adjusting a process-gas atmosphere in the region and/or hole (44) acted upon by the laser beam (30), in such a way that, due to reciprocal action between the laser beam (44) and the process gas, plasma will form in the region or hole (44) acted upon by the laser beam, and a backing (20) able to be positioned at an outlet opening (43) of a produced hole (44).

9. The device as recited in Claim 8, wherein the means (11, 12) for adjusting a process-gas atmosphere have at least one gas nozzle (12).